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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/471,220	12/23/1999	LLOYD . L. POLLARD II	42390.P7604	7160

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EXAMINER

JONES, HUGH M

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 10/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/471,220

Applicant(s)

Pollard et al.

Examiner

Hugh Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 23, 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Dec 23, 1999 is/are a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4, 6 6) ☐ Other:

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DETAILED ACTION

1. Claims 1-20 of U.S. Application 09/471,220 filed 12/23/1999 are pending.

Drawings

2. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Figure 3 discloses inherent and well known behavior of heating of Ics via power input. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.** The instant claims recite: determining, translating, adjusting (see claim 1, for example); monitoring, reducing (claim 10, for example). The Examiner referred to the

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specification in order to determine Applicant's teachings as it applies to the claims. The specification alleges that the present invention can be practiced with only some of the aspects or without the specific details (paragraphs 2-3, page 5, specification); that the order of the description is irrelevant (first full paragraph, page 6, specification); and that (first full paragraph, page 6, specification):

"Lastly, repeated usage of the phrase "in one embodiment" does not necessarily refer to the same embodiment, although it may."

5. The Examiner submits that such statements in the specification are confusing and an attempt to add material which has not been expressly disclosed or properly incorporated. **The specification contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention without undo experimentation.**

6. **Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.** The instant claims recite: determining, translating, adjusting (see claim 1, for example); monitoring, reducing (claim 10, for example). The Examiner referred to the specification in order to determine Applicant's teachings as it applies to the claims. The specification alleges that the present invention can be practiced with only some of the aspects or without the specific details (paragraphs 2-3, page 5, specification); that the order

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of the description is irrelevant (first full paragraph, page 6, specification); and that (first full paragraph, page 6, specification):

“Lastly, repeated usage of the phrase “in one embodiment” does not necessarily refer to the same embodiment, although it may.”

7. The Examiner submits that such statements in the specification are confusing and an apparent attempt to add material which has not been expressly disclosed or properly incorporated. **The specification contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.** Regarding claims 1-20, statements that the present invention can be practiced with only some of the aspects or without the specific details (paragraphs 2-3, page 5, specification); that the order of the description is irrelevant (first full paragraph, page 6, specification); and that (first full paragraph, page 6, specification) *“Lastly, repeated usage of the phrase “in one embodiment” does not necessarily refer to the same embodiment, although it*

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may.” renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed, thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Claim Interpretation

9. The broadest, most reasonable interpretation has been provided to the claims. Applicants have provided many caveats (discussed earlier) as it relates to the specification. The Examiner interprets that the specification is only that which is expressly disclosed within the four corners of the specification. The Examiner further notes Applicant’s *admission* that the present invention can be practiced with only some of the aspects or without the specific details (paragraphs 2-3, page 5, specification) and that the order of the description is irrelevant (first full paragraph, page 6, specification).

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b).

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Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

12. Claims 1-5, 8-13, 15-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bhatia et al. ('798).

Bhatia et al. disclose a system including a component (e.g., a processor) with a clock and a thermal management controller that monitors a temperature in the system. The thermal management controller varies the component between different performance states (e.g., cycles the processor between a high and a low performance state) when an over-temperature condition is detected. The thermal management controller further throttles the clock of the component while in the low performance state until the over-temperature condition is removed. See fig. 2-3, 8, 9, 15 and corresponding text.

13. Claims 1-2, 4-14, 19-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Woo et al. ('768) or Bogin et al. ('685 - IDS).

Woo et al. ('768 - IDS) disclose a memory system configured to provide thermal regulation of a plurality of memory devices is disclosed. The memory system comprises a memory module having a plurality of memory devices coupled to a bus. Additionally, the memory system also comprises a controller coupled to the bus. The controller determines an operating temperature (actual or estimated) of the memory device. Based on the determined operating temperature of the memory device, the controller is further operable to manipulate the operation of the memory system. See Abstract; fig. 3, 4, 6, 7, 10, 11 and corresponding text.

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Bogin et al. disclose a thermal management program wherein memory access rate is correspondingly controlled. See fig. 2-4 and corresponding text..

14. Claims 1-2, 4-5, 8-13, 19-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Watts ('084).

Watts discloses a method and system (130) for controlling sensed CPU dynamic operating characteristics, such as CPU temperature, temperature change and power consumption, including the steps of and circuitry for sensing at least one dynamic CPU operating characteristic (140) while the CPU operates at a first clock rate (134). The system (130) determines that a setpoint interrupt condition exists (140), such as a temperature threshold, by virtue of the at least one sensed CPU dynamic operating characteristic establishing a predetermined relationship relative to a predetermined setpoint (140) that associates with the at least one dynamic operating characteristic. In the event that the setpoint interrupt condition exists, the circuitry and instructions control (144) the clock rate relative to the first clock rate. In the event that the setpoint interrupt condition does not exist, the circuitry and instructions repeat the above steps of determining the interrupt condition and controlling the clock rate. The method and system (130) also determine whether the CPU is in a compute-bound state (142). This operation in conjunction with a real-time power conservation apparatus and method (20) is a particularly attractive feature of the present invention. See fig. 1-3, 8 and corresponding text.

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Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

17. **Claims 3, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over [Watts ('084) or Bogin et al. ('685) or Woo et al. ('768)] in view of Bhatia et al. ('798).**

The base references disclose the intervening limitations, but does not disclose use of the BIOS in the context of the claims.

Bhatia et al. disclose storing the thermal management program in BIOS (col. 7, lines 53-65; col. 9, lines 12-26; col. 12).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to store the program in BIOS for the following reasons. Computers are sometimes shut down when the computer overheats. When computers restart, they access BIOS. Storing the thermal management program in BIOS would allow the computer to remember that there is a thermal management issue and adjust the clock rate accordingly upon restart.

18. Claims 6, 17, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over [Watts ('084) or Bhatia et al. ('798)] in view of [Woo et al. ('768) or Bogin et al. ('685)].

The applied base references do not expressly teach concentrating on thermal management issues as it relates to memory.

Both Woo et al. (Abstract; fig. 3, 4, 6, 7, 10, 11 and corresponding text) and Bogin et al. (see fig. 1-4) disclose the application of thermal management techniques to memory.

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply thermal management techniques to memory because memory is accessed in virtually all computer operations (for example, ALU operations are less frequent). Thus thermal management issues can be more accurately characterized by correlating thermal management issues with memory access.

Conclusion

19. The prior art made of record in the information Disclosure Statement and not relied upon is considered pertinent to applicant's disclosure. The art listed on the Information Disclosure Statements was not used because it is cumulative to the applied art.

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20. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to:

Dr. Hugh Jones telephone number (703) 305-0023, Monday-Thursday 0830 to 0700 ET, *or* the examiner's supervisor, Kevin Teska, telephone number (703) 305-9704. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or (703) 308-1396 (for informal or draft communications, please label "*PROPOSED*" or "*DRAFT*").

Dr. Hugh Jones

Primary Patent Examiner

September 30, 2003


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